

WHAT IS CLAIMED IS:

1. An isolated nucleotide nucleic acid molecule comprising a nucleotide sequence encoding protein which has
5 three EGF-like domains and two discoidin I/factor VIII-like domains.
2. An isolated nucleic acid molecule, comprising a nucleotide sequence that hybridizes under stringent
10 conditions to a nucleic acid molecule having the nucleotide sequence of SEQ ID NO: 19.
3. An isolated nucleic acid molecule, comprising a nucleotide sequence that encodes a polypeptide having the
15 amino acid sequence of SEQ ID NO: 10 or its complement.
4. An isolated nucleic acid molecule, comprising a nucleotide sequence that encodes a polypeptide having the
amino acid sequence of SEQ ID NO: 29 or its complement.
20
5. An isolated nucleic acid molecule, comprising a nucleotide sequence of SEQ ID NO: 28 or its complement.
6. A recombinant DNA vector containing a nucleotide
25 sequence of Claim 2, 3, 4 or 5.
7. A recombinant DNA vector containing a nucleotide sequence that encodes a Del-1 fusion protein.
- 30 8. The recombinant DNA vector of Claim 6 in which the del-1 nucleotide sequence is operatively associated with a regulatory sequence that controls gene expression in a host cell.
- 35 9. The recombinant DNA vector of Claim 7 in which the del-1 fusion protein nucleotide sequence is operatively

associated with a regulatory sequence that controls fusion protein gene expression in a host cell.

10. An engineered host cell that contains the
5 recombinant DNA expression vector of Claim 8.

11. An engineered cell line that contains the
recombinant DNA expression vector of Claim 8 and expresses
Del-1.

10

12. An engineered cell line that contains the
recombinant DNA expression vector of Claim 9 and expresses
Del-1 fusion protein.

15 13. The engineered cell line of Claim 11 or 12 which
expresses the Del-1 on the surface of the cell.

14. The engineered cell line of Claim 11 or 12 that
expresses the Del-1 as a soluble protein or fragments
20 thereof.

15. A method for producing recombinant Del-1
comprising:

(a) culturing a host cell transformed with a
25 recombinant DNA expression vector containing a
nucleotide sequence that encodes a Del-1 protein;
and

(b) recovering the Del-1 protein gene product from the
cell culture.

30

16. A method for producing recombinant Del-1 fusion
protein, comprising:

(a) culturing a host cell transformed with a
recombinant DNA expression vector containing a
35 nucleotide sequence that encodes a Del-1 fusion
protein; and

(b) recovering the Del-1 fusion protein from the cell culture.

17. An isolated recombinant Del-1 protein which has 5 three EGF-like domains and two discoidin I/factor VIII-like domains..

18. A fusion protein comprising Del-1 linked to a heterologous protein or peptide sequence or portions thereof.
10

19. An oligonucleotide which encodes an antisense sequence complementary to the *del-1* nucleotide sequence, and which inhibits translation of the *del-1* gene in a cell.

15 20. The oligonucleotide of Claim 19 which is complementary to a nucleotide sequence encoding the amino terminal region of the *del-1*.

21. An antibody which immunospecifically binds to an
20 epitope of the Del-1.

22. The antibody of Claim 21 which is of monoclonal origin.

25 23. The antibody of Claim 22 which competitively inhibits the binding of a molecule to the Del-1.

24. The antibody of Claim 22 which is linked to a cytotoxic agent.
30

25. The antibody of Claim 22 which is linked to a radioisotope.

26. The antibody of Claim 22 which is anchored on a
35 solid support.

27. The antibody of Claim 22 which is linked to biotin.

28. A method for screening and identifying antagonists of Del-1 comprising:

- 5 (a) contacting a cell line that expresses Del-1 with a test compound; and
(b) determining whether the test compound inhibits the expression or function of Del-1.

29. The method according to Claim 28 in which the cell line is a genetically engineered cell line.

30. The method according to Claim 28 in which the cell line endogenously expresses Del-1.

15 31. A method for screening and identifying a binding partner of Del-1 activity comprising:

- (a) contacting Del-1 protein with a random peptide library such that Del-1 will recognize and bind to one or more peptide species within the library;
20 (b) isolating the Del-1 combination; and
(c) determining the sequence of the peptide isolated in step b.

25 32. The method according to Claim 31 in which the Del-1 protein is genetically engineered.

33. A method of detecting and isolating embryonic cells comprising incubating a cell mixture with an anti-Del-1
30 antibody, and isolating the antibody-bound cells.

Add
A3

35

Add
B1